

REMARKS

The Office Action dated March 28, 2003 and references cited therein have been carefully reviewed. In an effort to place the above-identified patent application in condition for allowance, Applicants have, by this amendment, amended the specification to correct several formal errors and to place the specification in better form for United States patent practice, canceled claims 25, 26, and 28 without prejudice, amended claims 16, 18, 19, and 22-24, and added new claims 30-72. Applicants submit that the amendments to the specification do not constitute new matter. For the Examiner's convenience, a substitute specification reflecting all the changes to the specification has been enclosed herein.

Applicants noted that only one of two Information Disclosure Statements has been considered by the Examiner. The Information Disclosure Statement mailed April 20, 2003 was considered by the Examiner; however, the Information Disclosure Statement mailed with the patent application on January 6, 2000 was not considered by the Examiner. Applicants have enclosed a copy of the January 6, 2000 Information Disclosure Statement and request consideration thereof.

THE INVENTION

The present invention is directed to a simple device and method to ensure a sealed area outside the leveler door opening and thus prevent the emission of charging gases through the leveler door opening. There is provided a device to seal a leveler door opening of a coke oven chamber during top charging of the coking coal. The device is provided with a housing that is connectable to the leveler door opening so as to form a seal, through which is guided a leveler bar. The leveler bar includes side segments and cross segments connecting the latter. The housing is also provided with an arrangement to seal the cross-sectional area of the opened leveler door or in front of the

opened leveler door. A regulatable or controllable exhaust fan is connected to the housing and a measuring location is provided for flow measurement. In one arrangement, the outlet of the exhaust fan is connected to an adjacent coke oven chamber. In another arrangement, the sealing plates are arranged in the housing to seal the leveler bar from above and below at least over the area of the two cross segments. The sealing strips are arranged to seal the side segments of the leveler bar. In yet another arrangement, the sealing plates and the sealing strips are provided with press-on means. In still another arrangement, the sealing plates are held in the housing such that they are pressed against the leveler bar by a partial vacuum. In still yet another arrangement, the sealing plates are rounded and/or beveled. In a further arrangement, a plurality of sealing plates and a plurality of sealing strips are arranged one behind the other in the leveler bar thrust direction. In yet a further arrangement, the housing is formed by the sealing plates and the side segments of the leveler bar. In still a further arrangement, there are provided moveable sealing elements that seal the inner cross-section of the leveler bar between the side segments. In still yet a further arrangement, at least one moveable sealing element is at least one rotary lock. In another arrangement, at least one moveable sealing element is at least one cell wheel. In still another arrangement, at least one sealing plate is arranged in the housing. In yet another arrangement, at least one moveable sealing element is at least one moveable roller. In still yet another arrangement, the exhaust fan and/or the sealing plates and/or the moveable sealing elements are arranged on the housing. In a further arrangement, there is provided a housing having a leveler door opening through which a leveler bar is guided and is connected to the leveler door opening. The leveler bar forms a seal in the leveler door opening thereby affecting gas exhaustion in the housing. The gas exhaustion in the housing is regulated or

controlled based on a flow measurement taken in the area of the leveler door opening in such a way that there is essentially no gas flow at that location.

THE SECTION 112 REJECTION

Claims 19 and 23 were rejected under 35 U.S.C. § 112 (2) as being indefinite for failing to particularly point out and distinctly claim the invention. Applicants have amended claims 19 and 23 to clarify the scope of the claims. Applicants submit that all the claims pending in the above-identified patent application are in proper form pursuant to 35 U.S.C. § 112.

THE SECTION 102 REJECTION

Claims 24, 25 and 28 were rejected under 35 U.S.C. §102(b) as being anticipated by Richmond 4,264,263. The Examiner asserts that seal 122 shown in FIGURE 4 of Richmond anticipates claim 24. Seal 122 only provides a seal between the housing and outer surface of leveler bar 16. Seal does not at least partially seal the inner cross sectional of the leveler bar. Consequently, Richmond does not anticipate claim 24 or any claim dependent therefrom. For at least this reason, the claims pending in the above-identified patent application are not anticipated by Richmond.

THE SECTION 103 REJECTION

Claims 16, 18-23 and 29 were rejected under 35 U.S.C. §103(a) as being unpatentable over Richmond 4,264,263 in view of DE 2364458 and further in view of Laragione 5,925,829. Claim 17 was rejected under 35 U.S.C. §103(a) as being unpatentable over Richmond 4,264,263 in view of DE 2364458 and further in view of Laragione 5,925,829 and Childress 5,114,542. Claims 26 and 27 were rejected under 35 U.S.C. §103(a) as being unpatentable over Richmond 4,264,263 in view of Trutzschler 3,859,066.

As set forth above, Richmond does not disclose, teach or suggest a seal that at least partially seals the inner cross sectional of the leveler bar. For at least this reason, Richmond cannot support a rejection to reject claim 27 under 35 U.S.C. §103(a).

None of the references of record disclose, teach, or suggest the measuring of gas flow in front of the leveler and using such measure to regulate the gas flow from the housing. For at least this reason, claims 16 and 29, and all the claims dependent therefrom, are patentable over the cited art of record.

Applicants submit all the claims presently pending in above-identified patent application are patentably distinct from the cited art of record.

Respectfully submitted,
FAY, SHARPE, FAGAN, MINNICH & McKEE

By: 

ROBERT V. VICKERS

Reg. No. 19,504

1100 Superior Avenue, 7th Floor

Cleveland, Ohio 44114-2579

Telephone: (216) 861-5582

Facsimile: (216) 241-1666